

**Notice of Allowability****Application No.**

10/597,763

**Applicant(s)**HOOGVEEN, ROMHILD  
MARTIJN**Examiner**

Tiffany A. Fetzner

**Art Unit**

2831

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/16/2009 and the telephonic interview of 6/12/2009.
2. ☒ The allowed claim(s) is/are Examiner amended claims 3-4, 6-11, and 13.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some\* c) ☐ None of the:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 5. <input type="checkbox"/> Notice of Informal Patent Application   |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>6/12/2009</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance                          |
|  | 9. <input type="checkbox"/> Other _____.  |

/T. A. F./  
Examiner, Art Unit 2831  
571-272-2241

**Examiner's Amendment** to approved entry **After Final amendment of April 16, 2009**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with **Attorney Thomas E. Kocovsky Jr. Reg. No. 28,383** on June 12, 2009 along with authorization to charge any necessary fees to applicant's deposit account.
3. The application has been amended as follows:

**A) Replace claim 6 of the April 16, 2009 after final amendment with the following Examiner amended claim 6:**

**Claim 6** --- An RF system configured for a magnetic resonance imaging device, comprising:  
an RF transmitter coil subsystem and  
an RF receiver coil subsystem, the RF receiver coil subsystem including:  
at least one first coil element and at least one second coil element, the at least one first coil element being longitudinally movably attached to the main magnet system separate from a support or bed on which an object to be analyzed is placed, such that the object and the support or bed move together longitudinally relative to the at least one first coil element and that the at least one first coil element moves longitudinally relative to the main magnet system independently of the support or bed and is positioned below, and entirely underneath the plane of the support or bed and the at least one second coil element being connected to an object to be analyzed by the magnetic resonance imaging device. ---

**B) Replace claim 11 of the April 16, 2009 after final amendment with the following Examiner amended claim 11:**

**Claim 11** --- A magnetic resonance imaging device, comprising:

- a main magnet system;
- a support or bed which supports an object that is to be analyzed;
- a gradient coil system;
- an RF system and a signal processing system, said RF system comprising an RF transmitter coil subsystem; and
- an RF receiver coil subsystem,

wherein the RF receiver coil subsystem comprises:

- at least one first coil element; and
- at least one second coil element;

wherein the at least one first coil element is longitudinally movably attached to the main magnet system and is separate from and entirely below the plane of the bed or support, in a way that the support or bed is longitudinally movable independently of the at least one first coil element and that the at least one first coil element is longitudinally movable independently of the bed or support and longitudinally movable independently of the main magnet system, and

wherein the ~~or each~~ at least one second coil element is attached to an object to be analyzed by the magnetic resonance imaging device and moves with the object.---

**C)** Replace claim 13 of the **April 16, 2009 after final amendment** with the following **Examiner amended claim 13**:

**Claim 13** --- An RF system configured for a magnetic resonance imaging device comprising:

- a main magnet system configured to define an imaging bore;

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a support configured to support and move a subject longitudinally into and along the bore;

a gradient coil system configured to create magnetic field gradients in the imaging bore;

an RF transmitter coil subsystem configured to transmit RF pulses into the imaging bore;

an RF receiver coil subsystem including:

a first RF coil structure that is positioned in the bore entirely below the plane of the support and is longitudinally movably mounted to the main magnet system, the support being longitudinally movable independently of the first RF coil structure and the first RF coil structure being configured to move longitudinally independently of the support and to move longitudinally independent of the main magnet system; and,

a second RF coil structure configured to be attached to and above the subject being analyzed such that the second RF coil structure moves together with the subject, independent of the first RF coil structure. ---

**In the title: Replace** the current title with the following Examiner amended title:

**--- RF coil system for an MRI System with a Fixed Coil and with a Moving Coil Part Below the Patient Support ---**

The following is an examiner's statement of **Reasons for Allowance**:

4. With respect to **independent claims 6, 11 and 13**: These claims are considered to be allowable over the prior art of record because the prior art of record neither discloses nor suggests an MRI apparatus comprising **the RF receiver coil subsystem including**: ( as stated in Examiner amended independent claim 6, and in corresponding manners for Examiner amended independent claims 11, 13; the limitations of: ) ---at

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least one first coil element and at least one second coil element, the at least one first coil element being longitudinally movably attached to the main magnet system separate from a support or bed on which an object to be analyzed is placed, such that the object and the support or bed move together longitudinally relative to the at least one first coil element and that the at least one first coil element moves longitudinally relative to the main magnet system independently of the support or bed and is positioned below, **and entirely underneath the plane of** the support or bed and the at least one second coil element being **connected to** an object to be analyzed by the magnetic resonance imaging device.--- in combination with all love the remaining limitations of each of the claims. It is the entire combination of the claim limitations taken as a whole that constitutes both the novelty and non-obviousness of applicant's claims.

5. With respect to **dependent claims 3, 4, and 7-10**: These claims are considered to be allowable over the prior art of record because they each depend from an allowable **Examiner amended independent claim**.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### **Examiner's Comment**

##### ***Priority***

7. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

##### ***Information Disclosure Statement***

8. The information disclosure statement (IDS) previously submitted on August 7, 2006 has already been considered by the examiner and was previously attached to the August 15, 2008 Office action.

##### ***Drawings***

9. The drawing objections from the **August 15, 2008** office action are **rescinded** in view of the applicant's drawing amendments made to amended **Figure 1**, submitted with the November 12, 2008 amendment in response.

***Specification***

10. The objections to the disclosure in the last office action of August 15, 2008 are rescinded, in view of the applicant's amendments filed November 12, 2008, which rectified the noted objections while being free of new matter.

***Canceled claims***

11. **Claims 1, 2, and 12** are canceled as per applicant's November 12, 2008 amendment and response.

12. **Claim 5 is canceled** as per applicant's **April 16, 2009 after final** amendment and response.

***Response to Arguments***

**13.** Applicant's after final arguments filed April 16, 2009 have been fully considered but they are not persuasive by themselves, minor informalities remain in the after final claims of April 16, 2009. However, the examiner notes that, the applicant argument of April 16, 2009 taken in combination, with respect to the examiner amendments made herein, are subsequently persuasive, because the examiner amendments made herein, resolve the remaining formal matter issues, while remaining free of new matter. The examiner notes at the prior art of record, also fails to teach applicants at least one first coil element, which is positioned below and entirely underneath the plane of the support or bed on which the object to be analyzed is placed, where the at least one first coil element is longitudinally movably attached to the main magnet system, and that the at least one first coil element moves longitudinally relative to the main magnet system independently of the support or bed" in combination with each of the other limitations of each of the respective independent claims 6, 11 and 13.

***Prior Art of Record***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**A)** **Wang et al.**, United States patent 5,928,140 issued July 27, 1999.

**B)** **Yasuhara et al.**, United States patent 7,218,106 B2 issued May 15, 2007.

**C)** **Zhu et al.**, United States patent 7,009,396 B2 issued March 7, 2006 filed September 12, 2002.

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- D) **Young** US patent 6,529,004 B1 issued March 4, 2003, filed June 5, 2000.
- E) **Englund et al.**, US patent 5,197,474, issued March 30, 1993.
- F) **Krockel et al.**, US patent application publication 2002/0138001 A1 published September 26, 2002, filed March 20<sup>th</sup> 2002.

### Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tiffany Fetzner whose telephone number is: (571) 272-2241. The examiner can normally be reached on Monday, Wednesday, and Friday-Thursday from 7:00am to 2:10 pm., and on Tuesday and Thursday from 7:00am to 5:30pm.

16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Diego Gutierrez**, can be reached at (571) 272-2245. The **only official fax phone number** for the organization where this application or proceeding is assigned is **(571) 273-8300**.

17. Information regarding the status of an application may be obtained from the Patent Application information Retrieval (PAIR) system Status information for published applications may be obtained from either Private PMR or Public PMR. Status information for unpublished applications is available through Private PMR only. For more information about the PMR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PMR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/TAF/  
June 19, 2009

**/Brij Shrivastav/**  
Primary Patent Examiner  
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